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CIN:U70100KA2015PTC084544, PAN:AAFCN1036R, GSTIN 29AAFCN1036R1ZZ

Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	VG30 Bitumen
Technical References	IS: 73-2019

FLASH POINT TEST
(IS: 1209-1978)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Bitumen VG30

Date of Testing : 26-03-2022

Sl. No.	Test property	Sample number			Average value
		1	2	3	
1	Flash point (^{0}C)	315	317	314	315

Remarks: The obtained bitumen flash point value is greater than 220 ^{0}C as specified in IS: 73-2019.

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Granular sub-base (GSB)
Technical References	As per Table 400-1 in MORT&H 5th revision

SIEVE ANALYSIS ON GSB
(TABLE 400.1)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Grade : Grading V

Description : Granular sub-base Total wt. of sample : 13200 gm

Date of Testing : 20-09-2021

IS Sieve Size inmm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified Limits
75.0	0	0	0	100	100
53.0	285	285	2.16	97.84	80-100
26.5	2522	2807	21.26	78.74	55-90
9.5	3215	6022	45.62	54.38	35-65
4.75	2865	8887	67.32	32.68	25-50
2.36	1700	10587	80.2	19.8	10-20
0.85	1500	12087	91.57	8.43	2-10
0.425	750	12837	97.25	2.75	0-5
0.075	-	-	-	-	-

Remarks : The obtained gradation satisfies the requirement mentioned in Table 400-1 of MORT&H

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Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Granular sub-base (GSB)
Technical References	IS: 2386 (Part 4)

AGGRAGTE IMPACT VALUE
IS: 2386 (Part 4)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Grade : Grading V

Description : Granular sub-base Total wt. of sample : 6000 gm

Date of Testing : 20-09-2021

Description	Symbol	Unit	Determinations		
			1	2	3
Weight of aggregate passing through IS Sieve 12.5mm & retained on 10mm	W1	g	378	380	383
Weight of fraction retained on 2.36 mm IS Sieve	W2	g	252	250	251
Weight of fraction passing through 2.36 mm IS Sieve	W3=W1-W2	g	126	130	132
Aggregate Impact Value	(W3/W1)X100	%	33.1	32.9	34.5
Average Aggregate Impact Value		%	33.5		

Remarks : The obtained AIV is lesser than 40% as specified in Table 400-2 of MORT&H

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure - Dasarahalli Division
Agency	Shri. E. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods - 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Granular sub-base (GSB)
Technical References	IS: 2720 (Part 5)

LIQUID LIMIT
IS: 2720 (Part 5)

Section/ Location of Lab	:	NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061
Grade	:	Grading V
Description	:	Granular sub-base Total wt. of sample : 6000 gm
Date of Testing	:	20-09-2021

Sl No.	1	2	3	4
Container No.	A	B	C	D
No. of blows	42	33	23	14
Weight of container (gm)	14.2	14.4	13.6	13
Weight of wet sample+ container (gm)	26.2	25.4	25.9	26.7
Weight of dry sample+ container (gm)	24.3	23.5	23.9	24.8
Water content (%)	19.2	21	23	27.2
W.C at 25 no. of blows (%)	22.5			

Remarks: The obtained liquid limit is lesser than 25% as specified in Table 400.2 in MORTH. The plastic limit is obtained as non-plastic.

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Wet Mix Macadam (WMM)
Technical References	As per Table 400-13 in MORT&H 5th revision

SIEVE ANALYSIS ON WMM
(TABLE 400.13)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Wet mix macadam Total wt. of sample : 13558 gm

Date of Testing : 22-09-2021

IS Sieve Size inmm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified Limits
53	0	0	0	100	100
45	563	563	4.2	95.8	95-100
22.4	4315	4878	36.0	64	60-80
11.2	2749	7627	56.3	43.7	40-60
4.75	1865	9492	70	30	25-40
2.36	1481	10973	80.9	19.1	15-30
0.6	1268	12241	90.3	9.7	8-22
0.075	987	13228	97.6	2.4	0-5

Remarks : The obtained gradation satisfies the requirement mentioned in Table 400-13 of MORT&H

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Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Wet mix macadam (WMM)
Technical References	IS: 2386 (Part 4)

AGGRAGTE IMPACT VALUE
IS: 2386 (Part 4)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Wet mix macadam Total wt. of sample : 6000 gm

Date of Testing : 22-09-2021

Description	Symbol	Unit	Determinations		
			1	2	3
Weight of aggregate passing through IS Sieve 12.5mm & retained on 10mm	W1	g	450	462	458
Weight of fraction retained on 2.36 mm IS Sieve	W2	g	350	361	359
Weight of fraction passing through 2.36 mm IS Sieve	W3=W1-W2	g	100	101	99
Aggregate Impact Value	(W3/W1)X100	%	22.22	21.9	21.6
Average Aggregate Impact Value		%	**21.9**		

Remarks : The obtained AIV is lesser than 30% as specified in Table 400-12 of MORT&H

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Wet mix macadam (WMM)
Technical References	IS: 2386 (Part 1)

FLAKINESS INDEX AND ELONGATION INDEX
(IS: 2386 (Part 1))

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Wet mix macadam Total wt. of sample : 6000 gm

Date of Testing : 22-09-2021

IS Sieve Size, mm		Total Weight of Aggregate taken (g)	Weight of aggregate Retained on sieve(g)	Wt. of flaky Aggregates (g)	Wt. of Retained Aggregates on flaky(g)	Wt. of Elongated Aggregates (g)
Passing	Retained					
25	20	6000	3145	474	2671	215
20	16		1787	245	1542	198
16	12.5		575	155	420	103
12.5	10		343	102	241	82
10	6.3		120	63	57	28
Total (gm)			5970	1039	4931	626

Flakiness Index = 1039/5970 = **0.174** Elongation Index = 626/4931 = **0.127**

Combined Flakiness and Elongation Indices = (0.174+0.127)*100 = **30.1 %**

Remarks: The obtained combined flakiness and elongation index is lesser than 35% as specified in Table 400-12 of MORT&H.

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Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Dense Bituminous Macadam (DBM)
Technical References	As per Table 500-10 of MORT&H

SIEVE ANALYSIS ON DBM
(Table 500-10)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Dense bituminous macadam Total wt. of sample : 6000 gm

Date of Testing : 25-03-2022

IS Sieve Size in mm	Weight Retained (gm)	% weight retained	Cumulative % retained	% Passing	SpecifiedLimits
37.5	0	0	0	100	100
26.5	469	3.2	3.2	96.76	90-100
19	2292	15.8	19.07	80.93	71-95
13.2	2284	15.8	34.85	65.15	56-80
4.75	2492	17.2	52.07	47.93	38-54
2.36	1765	12.2	64.26	35.74	28-42
0.3	2415	16.7	80.95	19.05	7-21
0.075	1896	13.1	94.04	5.96	2-8

Remarks : The obtained gradation satisfies the requirement mentioned in Table 500-10 of MORT&H

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Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Dense Bituminous Macadam (DBM)
Technical References	IS: 2386 (Part 4)

AGGRAGTE IMPACT VALUE
IS: 2386 (Part 4)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Dense bituminous macadam Total wt. of sample : 6000 gm

Date of Testing : 25-03-2022

Description	Symbol	Unit	Determinations		
			1	2	3
Weight of aggregate passing through IS Sieve 12.5mm & retained on 10mm	W1	g	370	375	376
Weight of fraction retained on 2.36 mm IS Sieve	W2	g	296	293	295
Weight of fraction passing through 2.36 mm IS Sieve	W3=W1-W2	g	80	82	84
Aggregate Impact Value	(W3/W1)X100	%	20.0	22.6	21.5
Average Aggregate Impact Value		%	**21.4**		

Remarks : The obtained AIV is lesser than 27% as specified in Table 500-8 of MORT&H

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Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Dense Bituminous Macadam (DBM)
Technical References	IS: 2386 (Part 1)

FLAKINESS INDEX AND ELONGATION INDEX (IS: 2386 (Part 1))

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Dense Bituminous Macadam Total wt. of sample : 6000 gm

Date of Testing : 25-03-2022

IS Sieve Size, mm		Total Weight of Aggregate taken (g)	Weight of aggregate Retained on sieve(g)	Wt. of flaky Aggregates (g)	Wt. of Retained Aggregates on flaky(g)	Wt. of Elongated Aggregates (g)
Passing	Retained					
25	20	6000	3065	476	2589	215
20	16		1742	247	1495	198
16	12.5		540	157	383	103
12.5	10		333	105	228	82
10	6.3		120	66	54	33
Total (gm)			5800	1051	4749	631

Flakiness Index = 1050/5800= **0.18** Elongation Index =631 /4749 = **0.13**

Combined Flakiness and Elongation Indices = (0.18+0.13)*100 = **31%**

Remarks : The obtained combined flakiness and elongation index is lesser than 35% as specified in Table 500-8 of MORT&H

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Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Dense Bituminous Macadam (DBM)
Technical References	IS: 2386 (Part 3)

SPECIFIC GRAVITY AND WATER ABSORPTION
(IS: 2386 (Part 3))

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Dense Bituminous Macadam Total wt. of sample : 6000 gm

Date of Testing : 25-03-2022

Sl. No.	Details	Test Number			Average
		1	2	3	
1	Weight of aggregate suspended in water with the basket W_1 g	2022	2018	2028	
2	Weight of basket suspended in water W_2 g	750	750	750	
3	Weight of saturated aggregate in Water $(W_1 - W_2) = W_5$ g	1272	1268	1278	
4	Weight of saturated surface dry aggregate in air W_3 g	2014	2016	2018	
5	Weight of water equal to the volume of the aggregate $(W_3 - W_5)$ g	742	748	740	
6	Weight of oven dried aggregate W_4 g	2006	2005	2004	
7	Specific Gravity $W_4/(W_3-W_5)$	2.7	2.689	2.71	2.697
8	Apparent Specific gravity $W_4/(W_4-W_5)$	2.733	2.72	2.76	2.738
9	Water Absorption $((W_3 - W_4)*100)/W_4$ (%)	0.4	0.55	0.7	0.55

Remarks : The obtained water absorption is lesser than 2% as specified in Table 500-8 of MORT&H

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Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Prime coat
Technical References	As per clause 502 MORT&H

PRIME COAT TEST
(clause 502)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : SS1 grade (IS: 8887)

Date of Testing : 27-04-2022

Determination	Unit	Test No	
		1	2
Size of Plate	mt	0.45x0.45	0.45x0.45
Area of Plate (a)	Sq.m	0.2025	0.2025
Initial Wt. of empty Plate (b)	Kg	1.615	1.62
Final weight of plate after application ofprime /Tack Coat (c)	Kg	1.737	1.749
Weight of Prime/Tack Coat (d=c-b)	Kg	0.122	0.1290
Rate of spread of prime /tack coat	kg/Sq.m	0.60	0.637
Average	kg/Sq.m	**0.62**	

Remarks: The obtained rate of spraying of prime coat is between 0.7-1.0 kg/sqm. as specified in clause 502 MORT&H.

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Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Dense Bituminous Macadam (DBM)
Technical References	As per Table 900-3

BITUMEN EXTRACTION
(As per Table 900-3)

Section/ Location of Lab	:	NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061
Description	:	Dense Bituminous Macadam
Date of Testing	:	27-04-2022

Description	Trail 1	Trail 2
Weight of Mixture before Test, g	500	500
Weight of Mixture after Test, g	475	477
Weight of Bitumen Extracted, g. (corrected)	25	23
Bitumen content in %	5.0	4.6
Average %	**4.8**	

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Civil Engineering Consultants
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CIN:U70100KA2015PTC084544, PAN:AAFCN1036R, GSTIN 29AAFCN1036R1ZZ

IS Sieve Size inmm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Job mix gradation
37.5	0	0	0	100	100
26.5	21.5	21.5	4.3	95.7	90-100
19	49.7	71.2	14.24	85.76	71-95
13.2	68.3	139.5	27.9	72.1	56-80
4.75	98.2	237.7	47.54	52.46	38-54
2.36	76.2	313.9	62.78	37.22	28-42
0.3	102.3	416.2	83.24	16.76	7-21
0.075	45.1	461.3	92.26	7.74	2-8

IS Sieve Size inmm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Job mix gradation
37.5	0	0	0	100	100
26.5	23.6	23.6	4.72	95.28	90-100
19	49.1	72.7	14.54	85.46	71-95
13.2	68.9	141.6	28.32	71.68	56-80
4.75	97.4	239	47.8	52.2	38-54
2.36	78.7	317.7	63.54	36.46	28-42
0.3	99.8	417.5	83.5	16.5	7-21
0.075	45.2	462.7	92.54	7.46	2-8

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CIN:U70100KA2015PTC084544, PAN:AAFCN1036R, GSTIN 29AAFCN1036R1ZZ

Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Bituminous concrete (BC) Grade 2
Technical References	As per Table 500-16 of MORT&H

SIEVE ANALYSIS ON BC
(IS: 2386 PART 1)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Bituminous concrete Total wt. of sample : 5300gm

Date of Testing : 27-03-2022

IS Sieve Size inmm	Weight Retained (gm)	% weight retained	Cumulative % retained	% Passing	SpecifiedLimits
19	0	0	0	100	100
13.2	372	7.01	7.01	92.99	90-100
9.5	710	13.4	20.41	79.59	70-88
4.75	1153	21.7	42.11	57.89	53-71
2.36	573	10.8	42.921	57.1	42-58
1.18	461	8.69	61.6	38.4	34-48
0.6	523	9.86	71.46	28.54	26-38
0.3	472	8.9	80.36	19.64	18-28
0.15	328	6.2	86.56	13.44	12-20
0.075	460	8.7	95.26	4.74	4-10

Remarks : The obtained gradation satisfies the requirement mentioned in Table 500-16 of MORT&H

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Bituminous concrete Grade 2
Technical References	IS: 2386 (Part 4)

AGGRAGTE IMPACT VALUE
IS: 2386 (Part 4)

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Bituminous concrete Total wt. of sample : 6000 gm

Date of Testing : 27-03-2022

Description	Symbol	Unit	Determinations		
			1	2	3
Weight of aggregate passing through IS Sieve 12.5mm & retained on 10mm	W1	g	378	376	375
Weight of fraction retained on 2.36 mm IS Sieve	W2	g	297	290	294
Weight of fraction passing through 2.36 mm IS Sieve	W3=W1-W2	g	81	86	81
Aggregate Impact Value	(W3/W1)X100	%	21.4	22.8	21.6
Average Aggregate Impact Value		%	21.9		

Remarks : The obtained AIV is lesser than 24% as specified in Table 500-16 of MORT&H

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Attiguppe main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Bituminous concrete Grade 2
Technical References	IS: 2386 (Part 1)

FLAKINESS INDEX AND ELONGATION INDEX
(IS: 2386 (Part 1))

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED
No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Bituminous concrete Total wt. of sample : 6000 gm

Date of Testing : 27-05-2022

IS Sieve Size, mm		Total Weight of Aggregate taken (g)	Weight of aggregate Retained on sieve(g)	Wt. of flaky Aggregates (g)	Wt. of Retained Aggregates on flaky(g)	Wt. of Elongated Aggregates (g)
Passing	Retained					
25	20	6000	3072	481	2591	220
20	16		1758	252	1506	205
16	12.5		561	164	397	111
12.5	10		345	115	230	90
10	6.3		132	73	59	37
Total (gm)			5868	1085	4783	665

Flakiness Index = 1085/5868= **0.185** Elongation Index =665 /4783 = **0.139**

Combined Flakiness and Elongation Indices = (0.185+0.139)*100 = **32.4%**

Remarks : The obtained combined flakiness and elongation index is lesser than 35% as specified in Table 500-16 of MORT&H

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Bituminous concrete Grade 2
Technical References	IS: 2386 (Part 3)

SPECIFIC GRAVITY AND WATER ABSORPTION
(IS: 2386 (Part 3))

Section/ Location of Lab : NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061

Description : Bituminous concrete Total wt. of sample : 6000 gm

Date of Testing : 27-03-2022

Sl. No.	Details	Test Number 1	2	3	Average
1	Weight of aggregate suspended in water with the basket W_1 g	2017	2014	2018	
2	Weight of basket suspended in water W_2 g	755	755	755	
3	Weight of saturated aggregate in Water $(W_1 - W_2) = W_S$ g	1262	1259	1263	
4	Weight of saturated surface dry aggregate in air W_3 g	2013	2015	2018	
5	Weight of water equal to the volume of the aggregate $(W_3 - W_S)$ g	751	756	755	
6	Weight of oven dried aggregate W_4 g	2002	2001	2003	
7	Specific Gravity $W_4/(W_3-W_S)$	2.67	2.65	2.653	2.655
8	Apparent Specific gravity $W_4/(W_4-W_S)$	2.705	2.697	2.707	2.703
9	Water Absorption $((W_3 - W_4)*100)/W_4$ (%)	0.55	0.7	0.75	0.67

Remarks : The obtained water absorption is lesser than 2% as specified in Table 500-16 of MORT&H

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Client	BRUHATH BENGALURU MAHANAGARA PALIKE (BBMP) Road Infrastructure – Dasarahalli Division
Agency	Shri. K. P. Dinesh Kumar, M/s Chowdeshwari Concrete India Pvt. Ltd. #801, 8th main, 5th cross, 4th stage BEML Nagar, Rajarajeshwarinagar, Bengaluru.
Name of the work	Widening and Comprehensive Development of Abbigere main road from Renaissance Woods – 3 Apartment to Gangamma Gudi Police Station.
Sample Identification	Bituminous concrete Grade 2
Technical References	As per Table 900-3

BITUMEN EXTRACTION
(As per Table 900-3)

Section/ Location of Lab	:	NEZ INFRATECH PRIVATE LIMITED No.1, 2nd Floor, P.Veerappa Arcade, Ittamadu Main Road, Bengaluru 560061
Description	:	Bituminous concrete
Date of Testing	:	28-04-2022

Description	Trail 1	Trail 2
Weight of Mixture before Test, g	500	500
Weight of Mixture after Test, g	470	471
Weight of Bitumen Extracted, g. (corrected)	30	29
Bitumen content in %	6	5.8
Average %	5.9	

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IS Sieve Size inmm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Job mix gradation
19	0	0	0	100	100
13.2	27.5	27.5	5.5	94.5	90-100
9.5	60.5	88	17.6	82.4	70-88
4.75	132	192.5	38.5	61.5	53-71
2.36	109	241	48.2	51.8	42-58
1.18	167.7	276.75	55.35	44.65	34-48
0.6	156.25	324	64.8	35.2	26-38
0.3	215.25	371.5	74.3	25.7	18-28
0.15	200.75	416	83.2	16.8	12-20
0.075	268.25	469	93.8	6.2	4-10

IS Sieve Size inmm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Job mix gradation
19	0	0	0	100	100
13.2	31	31	6.2	93.8	90-100
9.5	57	88	17.6	82.4	70-88
4.75	134.5	191.5	38.3	61.7	53-71
2.36	107.5	242	48.4	51.6	42-58
1.18	164	271.5	54.3	45.7	34-48
0.6	167	331	66.2	33.8	26-38
0.3	201	368	73.6	26.4	18-28
0.15	206	407	81.4	18.6	12-20
0.075	262.5	468.5	93.7	6.3	4-10

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